

SOME UNCOMMON FISHES FROM THE AEGEAN SEA

by

C. PAPACONSTANTINOU and N. TSIMENIDIS (1)

Résumé. — 33 espèces de poissons ont été identifiées au cours des pêches effectuées près des côtes nord et ouest de la mer Egée (Grèce). Parmi elles nous avons trouvé, en grandes quantités, des espèces considérées jusqu'à présent comme très rares. Plus précisément, *Bellottia apoda* est signalé pour la 3ème fois en Méditerranée. *Glossanodon leioglossus*, *Lepidotrigla dieuzeidei*, *Lepidorhombus whiffiagonis* et *Phrynorhombus regius* ont été trouvées pour la première fois dans la partie orientale de la Méditerranée, et *Chauliodus sloani*, *Macroramphosus gracilis*, *Ophichthus rufus* et *Epigonus denticulatus* ont été rencontrées pour la première fois dans la mer Egée.

Abstract. — A total of 33 species of fishes have been identified from the N. and W. coasts of the Aegean Sea (Greece). Many of them which have been so far considered as rare, have been found in large quantities. *Bellottia apoda* is found for the third time in the Mediterranean Sea. *Glossanodon leioglossus*, *Lepidotrigla dieuzeidei*, *Lepidorhombus whiffiagonis* and *Phrynorhombus regius* are recorded for the first time in the E. Mediterranean. *Chauliodus sloani*, *Macroramphosus gracilis*, *Ophichthus rufus*, *Epigonus denticulatus*, are recorded for the first time in the Aegean Sea.

INTRODUCTION

Relevant information on the ichthyofauna of Greece is based mainly on the works of Cuvier and Valenciennes (1821-1844), Heldreich (1878), Jordan and Hoffman (1892), Carus (1893), Steindachner (1891, 1896), Konsuloff and Drensky (1943), Belloc (1948). In addition to the above, during the last years, Stephanides (1973-1974) and Economidis and Bauchot (1976) have contributed to a great

(1) Institute of Oceanography and Fisheries Research (IOKAE), Greece.

extent in the recording of the Greek freshwater and marine ichthyofauna respectively. Referring specifically to the bathypelagic ichthyofauna of the Greek seas, information collected so far is limited and mainly comes from the oceanographic cruises of « THOR » (1908-1910) and « DANA » (1928-1930). Available literature indicates that Dodecanese can be considered the best studied area of Greece as far as its ichthyofauna is concerned and to this end contributed Gianferrari (1927, 1929) and Tortonese (1947).

The present study refers to the catch sampling undertaken by IOKAE since 1975 in the framework of a general research project in the Aegean Sea concerning the biology of demersal fishes of commercial importance. During a two years period sampling, records were being kept for all species the occurrence of which either has not been confirmed or it has been considered rare. The purpose of this study is to contribute to the knowledge of the Greek ichthyofauna with recent field data.

MATERIAL AND METHODS

A 400 HP fishing trawler with a cod-mesh opening of 14 mm (knot to knot) was used for the sampling. The material used was collected from stations 1-13 (Table 1, fig. 1). Fish were killed immediately after capture in 10 % formalin and eventually stored in 75° ethyl alcohol. All fishes were measured to the nearest mm, standard length. The material used for identification of the species has been preserved at the Museum of IOKAE.

LIST OF THE SPECIES

Thirty three species, representing 31 genera and 24 families are listed here. In addition to the scientific name and some basic taxonomic data, some ecological information are also indicated briefly in the list. Under « material » the station number, the number of fishes either examined or just collected (both given in parenthesis) and the range of their standard length or individual lengths in mm are listed.

1. Fam. SQUALIDAE

1. *Squalus blainvillei* (Risso, 1826)

Material examined : St. No 12, (2), 365, 475 mm.

Few specimens were collected in the Aegean Sea. It is considered relatively rare.

Distribution : Mediterranean and E. Atlantic.

2. *Etmopterus spinax* (Linnaeus, 1758)

Material examined : St. No 6, (27), 112-317 mm.

This is the most common bathypelagic elasmobranch of Greece. It is recorded by Belloc (1948), Dreskin and Konsuloff (1943), Economidis and Bauchot (1976) in the Aegean Sea as rare.

Distribution : Mediterranean and E. Atlantic.

2. Fam. STERNOPTYCHIDAE

3. *Argyropelecus hemigymnus* Cocco, 1829

Material examined : St. No 6, (35), 22-32 mm.

D 7-8, A 10-11, P 9-10, V 6.

It was found in the S. Aegean Sea by Jespersen (1915) and Jespersen and Tanning (1926). In the N. Aegean several specimens were caught in muddy bottom. Individuals with mature ovaries have been collected in winter.

Distribution : Cosmopolitan.

3. Fam. CHAULIODONTIDAE

4. *Chauliodus sloani* Schneider, 1801

Material examined : St. No 6, (1), 156 mm.

D 6, A 11, P 12, V 7.

This is the first record in the area under consideration. The occurrence of the species is mentioned by Ben Tuvia (1971) in the coasts of Israel and by Mouneimne (1976) in the coasts of Lebanon.

Distribution : Cosmopolitan.

4. Fam. STOMIATIDAE

5. *Stomias boa boa* (Risso, 1810)

Material examined : St. No 6, (1), 126 mm. St. No 2, (1), 201 mm.

D 17-18, A 18-19, P 6-7, V 5.

Two specimens were fished in the Aegean. It is reported also by Economidis and Bauchot (1976) in this area and by Steindachner (1891) in S. Aegean.

Distribution : Cosmopolitan.

5. Fam. ARGENTINIDAE

6. *Argentina sphyraena* Linnaeus, 1758

Material collected : St. No 1, (89), 110-178 mm. St. No 4, (185), 114-134 mm. St. No 10, (153), 61-151 mm. St. No 12, (93), 75-132 mm.- Pagasitikos gulf, (75),

123-148 mm.

D 10-12, A 11-14, P 14, V 12.

Very common species in the Greek seas in depths over 90 m. It has been mentioned by Belloc (1948) and Ontrias (1971) in the Aegean Sea.

Distribution : Mediterranean and E. Atlantic.

7. *Glossanodon leioglossus* (Valenciennes, 1848)

Material examined : St. No 4, (2), 86. 5, 106.5 mm. St. No 12, (15), 75-87 mm.

D 12-14, A 11-12, P 21-22, V 14-15.

The occurrence of the species is so far known in W. Mediterranean and in Ionian Sea. This is the first record in the Aegean Sea and E. Mediterranean.

Distribution : Mediterranean and E. Atlantic.

6. Fam. CHLOROPHTHALMIDAE

8. *Chlorophthalmus agassizi* Bonaparte, 1840.

Material examined : St. No 6, (3), 101-126 mm. St. No 7, (1), 96 mm. St. No 13, (175), 93-122 mm.

D 10-11, A 8-9, P 15-16, V 1-8.

It is reported by Taning (1918) in Dodecanese and by Economidis and Bauchot (1976) in N. Aegean Sea. The latter consider the species rare, but recent samplings have shown this to be common in the bathypelagic zone of N. Aegean, since it has been found in all stations with depths greater than 400 m. Mature ovaries were observed during summer.

Distribution : Cosmopolitan.

7. Fam. MYCTOPHIDAE

9. *Myctophum punctatum* Rafinesque, 1810

Material examined : St. No 6, (2), 40, 44.5 mm. St. No 7, (1), 45 mm.

D 12-13, A 20-21, P 14, V 8.

Few specimens were collected off the Magnesian peninsula. It is also recorded by Taning (1918) north of Andros island.

Distribution : Mediterranean and E. Atlantic.

10. *Hygophum benoiti* (Cocco, 1838)

Material examined : St. No 6, (2), 61.5, 64.5 mm. St. No 7, (1), 48 mm. St. No 11, (2), 64-66 mm.

D 12-13, A 19-21, P 15, V 8.

This is the second time the species is mentioned in the Aegean Sea after Taning's (1818) report.

Distribution : Mediterranean and Atlantic.

8. Fam. NETTASTOMATIDAE

11. *Nettastoma melanurum* Rafinesque, 1810

Material examined : St. No 6, (3), 344-405 mm.

Recorded in Greek seas and in the N. Aegean in particular, by Economidis and Bauchot (1976).

Distribution : Mediterranean and E. Atlantic.

9. Fam. OPHICHTHIDAE

12. *Ophithus rufus* (Rafinesque, 1810)

Material examined : St. No 9, (1), 268 mm.

Belloc (1948) refers to the *O. rufus* as a common species of the Dodecanese ichthyofauna even though nobody else mentions its occurrence in the Greek seas. The finding of one specimen at a depth of 100 m, East of Salamis island (Peristeri cape) in Saronikos confirms the presence of the species in the Aegean Sea. Ben Tuvia (1971) checked it in the E. Mediterranean.

Distribution : Mediterranean.

13. *Ophisurus serpens* (Linnaeus, 1758)

Material examined : St. No 9, (1), 138 cm.

Rare.

Distribution : Mediterranean and E. Atlantic.

10. Fam. MACRORAMPHOSIDAE

14. *Macroramphosus scolopax* (Linnaeus, 1758)

Material examined : St. No 1, (5), 110-134 mm. St. No 7, (2), 65-68 mm. St. No 9, (11), 65-80 mm. St. No 10, (11), 65-77 mm. St. No 11, (8), 69-82 mm. Pagasitikos gulf, (18), 65-72 mm.

D₁ V-VI, D₂ I. 11-13, A 18-19, P 16-17, V 1.4.

Even though until today this species has been considered rare (Tortonese 1947, Belloc 1948), it has been confirmed that it is quite common in the Aegean Sea with a range of depths from 70-420 m found mainly in muddy bottoms.

Distribution : Cosmopolitan.

15. *Macroramphosus gracilis* (Lowe, 1839)

Material examined : St. No 1, (10), 53-60.5 mm. St. No 6, (1), 59 mm. St. No 12, (9), 54-64 mm. St. No 13, (3), 55-61 mm.

D₁ V-VI, D₂ I. 11, A 17-19, P 16, V I-4.

This is the first record in the Aegean Sea. It was found at depths from 80-420 m in muddy-sand bottoms. Ben Tuvia (1971) and Mouneimne (1976) checked the species in the E. Mediterranean.

Distribution : Cosmopolitan.

11. Fam. MACROURIDAE

16. *Hymenocephalus italicus* Giglioli, 1884

Material collected : St. No 2, (1800), 80-95 mm. St. No 5, (80), 60-125 mm. St. No 6, (1500), 82-213 mm. St. No 7, (3000), 84-135 mm. St. No 11, (2500), 89-111 mm. St. No 13, (2100), 80-126 mm.

D₁ 10-11, A 130 (about), P 16, V 11

Recorded in the Aegean Sea by Steindachner (1891) and Belloc (1948), and in the N. Aegean by Economidis and Bauchot (1976) as rare. It is the most common representative of the family in the Aegean Sea. It was caught at depths over 400 m. Mature ovaries observed all year round.

Distribution : Mediterranean, E. and W. Atlantic.

17. *Nezumia sclerorhynchus* (Valenciennes, 1838)

Material collected : St. No 6, (377), 88-213 mm. St. No 7, (67), 125-157 mm. St. No 10, (5), 125-172 mm. St. No 11, (232), 90-211 mm. St. No 13, (25), 105-183 mm.

D₁ 10, A 120 (about), P 14-17, V 8.

This species appears to be one of the most common representatives of the bathypelagic ichthyofauna of the Aegean Sea, but until today it was considered to be rare. (Steindachner 1891, Economidis and Bauchot 1976). It is usually found at depths around 400 m and occasionally in less deep waters up to 250 m.

Distribution : Mediterranean and E. Atlantic.

18. *Coelorhynchus coelorhynchus* (Risso, 1810)

Material collected : St. No 2, (105), 100-205 mm. St. No 6, (276), 151-210 mm. St. No 7, (800), 122-233 mm. St. No 10, (5), 92-103 mm. St. No 11, (223), 83-205 mm. St. No 13, (152), 120-210 mm.

D₁ 9, A 86-89. P 15-17, V 7.

It has been found in all sampled stations at depths greater than 300 m. Steindachner (1891) and Economidis and Bauchot (1976) report the species rare for the Aegean Sea.

Distribution : Mediterranean and E. Atlantic.

12. Fam. MORIDAE

19. *Gadella maraldi* (Risso, 1810)

Material examined : St. No 10, (1), 50 m.

D₁ 9, D₂ 56, A 58, P 22, V 7.

Belloc (1948) reports it in north of Evvoia island. This is the second record of the species in the Aegean Sea.

Distribution : Mediterranean and E. Atlantic.

13. Fam. TRACHIPTERIDAE

20. *Trachipterus trachipterus* Gmelin, 1789)

Material examined : Saronikos gulf (Vouliagmeni beach), (1), 57 cm.

D 161, P 10, V 5.

Rare.

Distribution : Cosmopolitan.

14. Fam. TRACHICHTHYIDAE

21. *Hoplostethus mediterraneus* Cuvier, 1829

Material examined : St. No 2, (6), 31-71 mm. St. No 6, (61), 42-81 mm.

St. No 7, (3), 54-59 mm. St. No 13, (75), 34-75 mm.

D VI.13-14, A III.10, P 15, V I.6.

Though Economidis and Bauchot (1976) consider the species rare in the Aegean Sea, it has been found to be common in all stations deeper than 300 m.

Distribution : Cosmopolitan.

15. Fam. APOGONIDAE

22. *Epigonus denticulatus* Dieuzeide, 1950

Material examined : St. No 6, (3), 90-99 mm.

D₁ VII, D₂ I.9, A II.9, P 16-19, V I.5

Few specimens were collected off the Magnesian peninsula. This is the first record in the Greek seas. Mouneimne (1976) reports the species in the E. Mediterranean near the coasts of Lebanon.

Distribution : Mediterranean.

16. Fam. LABRIDAE

23. *Acantholabrus palloni* (Risso, 1810)

Material examined : Saronikos gulf, (1), 69 mm.

D XX. 8, A V.7, P 14, V I.5.

Tortonese (1975) considers this species very rare. In Greece it is reported by Belloc (1948) and Economidis and Bauchot (1976). The specimen examined was fished at a depth of 150 m.

Distribution : Mediterranean and E. Atlantic.

17. Fam. CALLIONYMIDAE

24. *Callionymus lyra* Linnaeus, 1758

Material examined : St. No 4, (25), 72-235 mm. St. No 8, (12), 155-310 mm.

Pagositikos gulf, (22), 43-332 mm.

D₁ IV, D₂ 9, A 9, P 19-20, V I.5

Recorded by Belloc (1948). Common in the Greek seas, fished in large numbers particularly at the NW bight of the Aegean Sea.

Distribution : Mediterranean.

25. *Callionymus maculatus* Rafinesque, 1810

Material examined : St. No 1, (5), 58-73 mm. St. No 4, (85), 54-93 mm. St. No 9, (14), 52-82 mm. Pagasitikos gulf, (9), 53-94 mm.

D₁ IV, D₂ 9-10, A 8-9, P 17, V I.5.

Belloc's (1948) description of the species based on specimens measured 34-45 cm in length should be considered with reservation because the range of lengths of *C. maculatus* is much below that given by the author. Evidently the species was confused with *C. lyra* which usually attains the prementioned length range. Even though Fage (1918), Economidis and Bauchot (1976) consider the species rare in Aegean Sea, we have collected a large number of specimens mainly in Thermaikos gulf at depths from 30 to 70 m.

Distribution : Mediterranean.

18. Fam. BROTLIDAE

26. *Bellottia apoda* Giglioli, 1833

Material examined : St. No 11, (10), 42.5 - 59 mm.

D 84-88, A 61-70, P 21-22.

Few specimens were obtained from a trawler haul at a depth of 420 m (Papa-constantinou *et al.*, 1977). This is the third record in the Mediterranean.

Distribution : Mediterranean and E. Atlantic (Maul, 1976).

19. Fam. CARAPIDAE

27. *Echiodon dentatus* (Cuvier, 1829)

Material examined : St. No 3, (1), 212 mm.

Ontrias (1971) mentions the species occurring in the Aegean Sea by examining one specimen in the Munich museum. This is the second report in the E. Mediterranean.

Distribution : Mediterranean.

20. Fam. CENTROLOPHIDAE

28. *Centrolophus niger* (Gmelin, 1789)

Material examined : St. No 11, (64), 390-610 mm.

D 38-40, A 25-30, P III.20-21, V I.5

This capture in the Saronikos gulf confirms the first report by Belloc (1948) in the Greek seas and by Economidis and Bauchot (1976) in the N. Aegean. Large

specimens are usually sold unskinned during winter and spring in the Fish-market of Kavala in Northern Greece.

Distribution : Mediterranean and E. Atlantic.

21. Fam. TRIGLIDAE

29. *Lepidotrigla dieuzeidei* Audoin, in Hureau et Monod, 1973

Material examined : St. No 1, (2), 87, 92 mm. St. No 4, (8), 91-101 mm. St. No 12, (23), 78-108 mm.

D₁ VIII-IX, D₂ 14-16, A 15-16, P III. 10-11, V I. 5.

This species was first described from some specimens collected near the Algerian coasts. Since then, it has been recorded in W. Mediterranean, Tarado bay (Galloti, 1973) and Ionian Sea (Kaspiris, 1973). This is the first record in the E. Mediterranean. All specimens have been collected along with individuals of *L. cavillone* evidently inhabiting the same biotope.

Distribution : Mediterranean.

22. Fam. SCOPHTHALMIDAE

30. *Lepidorhombus whiffiagonis* (Walbaum, 1792)

Material examined : St. No 11, (2), 174-243 mm

D 85-86, A 66-68, P 9-14, V 6.

Reported by Belloc (1948) for the Greek seas but no mention is made about location of capture. This record confirms the occurrence of the species in the Aegean Sea and E. Mediterranean.

Distribution : Mediterranean and E. Atlantic.

31. *Phrynorhombus regius* (Bonnaterre, 1788)

Material examined : St. No 3, (3), 80-90 mm. Thracian Sea, (8), 95-106 mm.

D 76-81, A 64-66, P 10, V 6.

This is the first record in the Aegean Sea. Seabeds at depths of 20-120 m covered with shingle, algae and sponges are the usual habitat of the species. Sexual dimorphism has been observed as far as the height and the size of the 1st ray of the dorsal and pectoral fins are concerned both being bigger in the female than in the male.

Distribution : Mediterranean and E. Atlantic.

23. Fam. BOTHIDAE

32. *Arnoglossus rueppelli* (Cocco, 1844)

Material examined : St. No 4, (4), 88-103 mm.

D 105-111, A 86-92, P 9-13, V 6.

The first record of the species was made by Ontrias (1971) on some specimens caught near Naxos island conserved in the Munich museum. Few specimens collected in Thermaikos gulf confirm the occurrence of the species in the Greek seas.

Distribution : Mediterranean and E. Atlantic.

24. Fam. CYNOGLOSSIDAE

33. *Symphurus nigrescens* Rafinesque, 1810

Material collected. St. No 1, (175), 98-112 mm. St. No 4, (282), 92-110 mm. St. No 7, (23), 83-104 mm. St. No 9, (159), 96-115 mm. St. No 11, (83), 92-111 mm. St. No 11, (7), 85-97 mm

D 83-87, A 70-74, V 4.

Economidis and Bauchot (1976) mention the species in N. Aegean, near Thasos island ; they consider it rare, however, we found it to be very common in all stations and at all depths, from shallow to 420 m.

Distribution : Mediterranean and E. Atlantic.

TABLE 1.

List of the collection stations

No of stations	Geographical locations	Depths in m.	Type of bottom
1	Strymonikos gulf	110	muddy
2	Strymonikos gulf	350	muddy
3	Thermaikos gulf	40	algae-muddy
4	Thermaikos gulf	90	muddy
5	Peninsula of Kassandra	370	muddy
6	Coasts of Magnesian peninsula	450	muddy
7	N.E. coasts of Evvoia island (cape Artemision)	400	muddy
8	Canal of the N. Evvoikos gulf	70	shingle-sponges-algae
9	Saronikos gulf	95	muddy
10	Saronikos gulf	250	muddy
11	Bay of Epidavros	400	muddy
12	Saronikos gulf	135	muddy-sand
13	Coasts of Hydra island	410	muddy-sand



Fig. 1. The sampling area and the collection stations.

REFERENCES

- BELLOC, G., 1948. — Inventory of fishery resources of the Greek waters. Appendix B. Catalogue of resources of Greek waters, pp. 4-64 (unpublished).
- BEN TUVIA, A., 1971. — Revised list of the Mediterranean fishes of Israel. *Israel J. Zool.*, 20 : 1-39.
- CARUS, J.V., 1893. — *Prodromus Faunae Mediterraneae*. Stuttgart, 2, 854 p.
- ECONOMIDIS, P. et BAUCHOT, M.L., 1976. — Sur une collection de poissons des mers helléniques (mers Egée et Ionienne) déposées au Muséum national d'Histoire naturelle. *Bull. Mus. nat. Hist. Nat.*, 3e ser., 392 : 871-903.

- FAGE, L., 1918. — Shore fishes. *Rep. Danish oceanogr. Exped. 1908-1910*, 2, A 13, 154 p.
- GALLOTTI, M.A., 1973. — Pesci del golfo di Taranto. *Ann. Mus. St. Nat. Genova*, 79 : 117-125.
- GIANFERRARI, L., 1927. — Diagnosi preliminare di due nuove specie ittiche di Rodi. *Att. Soc. Ital. Sci. nat.*, 66 : 123-125.
- GIANFERRARI, L., 1929. — Ricerche faunistiche nell'isole italiane dell'Egeo. *Pesci. Arch. Zool. Ital.*, 13 : 37-44.
- HELDREICH, T., 1878. — La faune de Grèce. 1er partie. Animaux Vertébrés. Athènes, 113 p.
- HOFFMAN, H. and JORDAN, D., 1892. — A catalogue of the fishes of Greece, with notes on the names now in use and those employed by classical authors. *Proc. Ac. nat. Sci. Philad.* : 230-285.
- JESPERSEN, P., 1915. — Sternoptychidae (*Argyropelecus* and *Sternoptyx*). *Rep. Danish oceanogr. Exp. 1908-1910*, A 2, 41 p.
- JESPERSEN, P. and TANING, V., 1926. — Mediterranean Sternoptychidae. *Rep. Danish oceanogr. Exp. 1908-1910*, 2, A 12, 59 p.
- KASPIRIS, P., 1973. — Contribution to the Knowledge of Osteichthyes of Korinthiakos-Patraikos gulf and the Ionian Sea. *Ph. D. thesis*, University of Patra, 122 p. (in Greek).
- KONSULOFF, S. and DRENSKY, P., 1943. — Die fischfauna der Aegäis. *Ann. Univ. Sofia Fac. Sci. nat.*, 39 (3) : 293-308.
- MOUNEIMNE, N., 1977. — Liste des poissons de la côte du Liban (Méditerranée orientale). *Cybiurn*, 3e ser., (1) : 37-66.
- ONTRIAS, J.C., 1971. — A list of the Fresh and Sea waters fishes of Greece. *Hellenic Oceanol. Limnol.*, 10 : 23-96.
- PAPACONSTANTINO, TSIMENIDIS, N. and DAULAS, C., 1977. — A new record of a bathypelagic fish *Bellottia apoda* Gigl., 1883, in Saronikos gulf (Greece). *Thalassographica*, 1, 3 : 279-287.
- STEINDACHNER, F., 1891. — Vorläufiger Bericht über die Zoologischen Arbeiten im Sommer 1891. Veröffentlichungen der commission für Erforschung der östlichen Mittelmeeres. *S.B. Ak. Wiss. Wien*, 100 : 435-447.
- TANING, V., 1918. — Mediterranean Scopelidae. - *Rep. Danish oceanogr. Exped. 1908-1910*, 2, A 7, 154 p.
- TORTONESE, E., 1947. — Ricerche zoologiche nell'isola di Rodi (Mar Egéo). *Pesci. Boll. Pesca Pisc. Idrobiol.*, 23 (2) : 143-192.
- TORTONESE, E., 1975. — Osteichthyes (Pesci Ossei). Parte seconda. Fauna d'Italia, vol. XI, Ed. calderini, Bologna, 636 p.